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ABSTRACT

Except for several Human Resources Research Organization studies of the military, no systematic study has been made of the effects of attitudes and incentives on manpower availability. One such study explored the effects of early Army experience in the career orientation of Army recruits and found that early positive motivation for service was inversely related to effectiveness. Another study explored the enlistment recruiting process and found that two-thirds of the potential recruits actually enlisted in the Army but that the occupational options chosen did not adequately match recruit qualifications or Army needs. A third study analyzed career orientation questionnaires of 2,000 Warrant Officer aviators and found that combining items on background, wives' attitudes, career attitudes, and career intentions into a simple composite score produced a correlation of 0.63 with retention vs. departure. These and other studies demonstrate that studies of motivation and incentives can play a significant role in shaping decisions about national policies regarding military service and civilian occupations. With present-day data systems and data processing capabilities, much more can and should be done to continually update knowledge of the effects of motivation on manpower availability. (JR)

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MOTIVATION AND INCENTIVES IN MANPOWER ANALYSIS

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Concern about manpower has been with us in many ways and primarily in an economic framework throughout the modern history of the nation. This concern has, for example, had major effects on our national policies for immigration patterns. But, except for studies of pathological breakdown in human effectiveness and the economists assumptions about human nature and the dynamics of economic phenomena, no systematic attention has been paid to the effects of attitudes, motives and incentives as forces pertaining to human resources.

Scientific approaches to manpower analysis and planning began in relation to the mass mobilization of World War II and concern in the aftermath of World War II to try to understand manpower from wartime experiences in order to apply this understanding to problems in the civilian sector of the nation. Just after World War II, Eli Ginzberg and associates at Columbia University performed landmark work in the Conservation of Human Resources project ( ) and many additional important

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contributions to understanding manpower have come from other economists who considered manpower in a predominately economic framework.

The important dimensions of motivation and incentives in manpower analysis have been sorely neglected. Economics and economic motivation, for example, are only facets of society and motivation and are limited by the economist's assumption: that man is an economic creature. Industrial and organizational psychology have produced considerable evidence (Hertzberg, Argyris) that this is not the case. The picture on manpower needs to be broadened.

Psychologists have, by and large, concerned themselves with human aspects of manpower problems under the title of "Personnel Research". Personnel research has a long history beginning with problems of square pegs in round holes and is now with us in the form of complex, sophisticated systems for selection and classification. Just as economics analyses, psychological analyses have suffered from limiting features: they deal mainly with the aptitudes and abilities of human beings. Only limited

progress has been made towards considering human motivation and incentives.

Supplementing economic and human capabilities analyses, pathological aspects of manpower have received some attention. Ginzberg ( ) analyzed factors related to ineffectiveness of soldiers; Beebe and Appel ( ) dealt with psychiatric breakdown in combat; Vineberg ( ) explored psychiatric breakdown in tactical nuclear warfare.

While these studies of pathological ineffectiveness deal with factors beyond economic forces and beyond the effects of aptitudes and psychometric abilities, they are mainly pertinent to high stress situations bordering on catastrophes and, thus, provide only very limited assistance for understanding and planning in relation to society's major present problems regarding human resources.

Human resources of the nation and human resources for military planning must not neglect economics, abilities, breakdown in effectiveness. But, more important than these -- perhaps because we understand them less well -- are the impact of attitudes, motivation and incentives on the heterogeneous

subsets of the nation's human resources. For the Army, as well as the nation as a whole, there is the present question of the All Volunteer Army: is it possible? what would it be like? Mainly for the nation as a whole but also for the services there are questions and programs on the culturally disadvantaged: how can the culturally disadvantaged be aided? what are the effects of dissatisfaction? what incentives are credible to the disadvantaged? what will motivate them to improve their educational and job status? These problems, the welfare problems, the problem of underachievers in our schools and many others are, at their core, matters of motivation, attitudes and incentives.

While there is a considerable research literature on attitudes, motives, and incentives in individuals, we do not yet have a systematic understanding of how their effects are evident in large aggregations such as draft age youth, first enlistment soldiers or the culturally disadvantaged.

HumRRO has had a continuing, but small, research effort in motives, attitudes and incentives in relation to military manpower problems; our

efforts along these lines are increasing and will continue to increase and be supplemented by civilian manpower research because both civilian and military agencies are becoming more and more concerned about the need for improved understanding of the nation's human resources.

I would like to describe several research projects pertaining to motivation and incentives as these have borne upon manpower problems. These are drawn from HumRRO work and, for each, I would like to sketch the kind of problem approached, the nature of the data collected and the conclusions resulting.

Career Orientation After Early Army Experience (PP 7-68)

About 10 years ago, Snyder and Caylor, first in HumRRO Work Unit CAREER and later in Work Unit TRANSITION, explored the effects of early Army experience in the career orientation of Army recruits. This study was continued as a longtitudinal research effort to study reenlistment in relation to attitudes and other characteristics near the beginning of the recruit's service.

Subjects in the main study were 30 companies undergoing Basic Combat Training at Fort Ord in the early 1960s. Thus, caution must be exercised

in generalizing from that study to other contexts with regard to several factors:

1. The manpower input and personnel training policies and procedures of the Army of the early 1960s are not the same as for 1970.

2. The manpower characteristics and subculture of the mainly California input to Ft. Ord cannot be considered typical for the country as a whole.

3. The social, economic, attitudinal and international milieu of the early 1960s differ from those of the 1970s.

The data base for the study was mainly attitude questionnaires administered to the recruits and administrative records. Some limited use was made of performance data.

Major findings included the following:

1. Among the volunteers for service, before BCT, only half reported they would have enlisted in the Army had there been no draft. Only about one-fifth of the volunteers reported firm intention to reenlist "if things work out well". After BCT, only about one-tenth reported firm intention to

reenlist "if things work out well". For draftees and reservists, the bulk of responses indicated they would not have enlisted, had little expectation of reenlistment and this limited intention further diminished after BCT.

2. Recruits were also asked to rank the importance to them of a variety of factors pertaining to choice of occupation. Results differentiated career-oriented and non-career-oriented as follows:

Career-oriented ranked higher early, comfortable retirement, doing new and different things, being treated with respect and having good friends to work with.

For non-career-oriented, being my own boss and money earned were ranked higher.

3. Other findings indicated that career orientation tended to diminish in association with experiencing the traumas of the reception center and through the course of basic training. Despite the image of basic training as rugged and harsh, diminution of career orientation seemed to be associated with recruit's feelings that they were not

challenged physically or mentally and felt that training should be made tougher physically and mentally. (This finding led to modifications in the training program at Fort Ord.)

4. In incidental finding of special significance developed from a special analysis of recruits who had been in H.S. ROTC. These were over-represented among volunteers, were more interested in reenlistment than other volunteers and had better potential for effectiveness in service by virtue of higher aptitude and more education that other volunteers. They appear to be especially fruitful to receive attention for recruiting into and retention in the Army.

5. Using a combination of administrative criteria such as promotions, awards and disciplinary record to assess effectiveness as a soldier, it was found that early positive motivation for service was inversely related to effectiveness. This seemed to be a consequence of variables such as age, education and aptitude for which the older better educated and abler who were also less career-oriented were most effective in their first tour performance.

Unfortunately, there are no data from which the relationship between early career-orientation and actual reenlistment could be studied.

Recruiting Into the Army (TR 69-10)

In the mid-sixties, as part of HumRRO Work Unit SPUR, which was concerned mainly with personnel aspects of electronics training, Kubala and Christensen studied the Army enlisted recruiting process in an attempt to learn what could be done to increase the number of enlistment volunteers for electronics training. The study itself, however, dealt with the entire spectrum of enlisted recruiting. As for the CAREER-TRANSITION studies, caution in generalizing must be exercised. Important differences between the mid-sixties and today rest in:

1. Changes over the past five years in the international and national social, economic and attitudinal milieu.

2. Changes over the past five years in national draft policies and in the personnel and training systems of the Army.

In all, recruiting at 18 Army Recruiting Main Stations throughout the

country involving 10,000 potential recruits and over 450 recruiters was studied.

The basic data in the study consisted of information on all potential recruiting actions at 18 stations during a three-month period in 1965. Information was collected on:

1. Demographic, educational, aptitude and enlistment preference variables for each potential recruit together with outcome of the recruiting inquiry.

2. Demographic and military data on the recruiters.

Analysis consisted of relating the outcome of recruiting inquiries to characteristics of the potential recruit, characteristics of the recruiters and characteristics of the recruiting station. The main focus in analysis concerned exploring the workings of the incentive system of "choice not chance" in Army recruiting. It was found:

1. Almost two-thirds of the potential recruits actually enlisted in the Army. About one-tenth were qualified but failed to enlist. The

remainder were not qualified for enlistment.

2. Those who were qualified but did not enlist, generally, represent a heterogeneous group about whom little is known. They appeared to be generally better qualified than enlistees; many probably enlisted in a different service. More information on this population would be very useful in exploring competition for Army enlistment incentives.

3. Generally, while percentage of potential recruited appears high the options chosen did not provide a good allocation to occupational areas in terms of recruit qualifications and Army needs. Recruits for OCS and Hard Skills MOSs were appreciably less than needed and less than the manpower pool could provide. There appeared to be little tendency for recruiters to influence well-qualified men to career or MOS options especially needed by the Army.

4. Except for the special interest categories of OCS or Warrant Officer Flight Program, recruits who did not qualify for their first choice or first choice was not available were as likely to accept enlistment in a

second choice category as those granted their first choice.

5. There were geographical recruiting differences with regard to patterns of recruiting options emerging. Recruiting stations in the West produced most job-option recruits; those in the South produced the fewest.

6. There appeared to be no major recruiter characteristics with very strong effects on recruiting, although it was found that the recruiters producing the higher number of enlistments tended to obtain enlistment options for which qualifications were minimal and for which no advance quota was needed. Also, recruiters from personnel service branches tended to produce more specific MOS enlistments that did those from combat arms.

Predicting Career Retention for Army Warrant Officer Pilots (PP 26-68 and PP 14-69)

Late in 1966, as part of research conducted under FR-38, Boyd and Boyles administered attitude and career orientation questionnaires to about 2000 Warrant Officer aviators, over 80% of those then in service. The purposes of this questionnaire study were:

1. To develop data about the WO aviators regarding demographic

characteristics, attitudes towards their training, jobs and advancement opportunities, attitudes of wives and expressions of career intentions.

2. To relate these measures to actual retention in the Army or separation from at the end of the three year obligated post-training tour of duty. For analysis, it was assumed that those who had accumulated 10 or more years of service had already made a career commitment, and they were not further studied.

At this time, data are available for about a quarter of the population studied for some findings and for somewhat more than half for others.

Main findings include the following:

1. About three-quarters of the Warrant Officers leave service at the end of their three-year obligated tour.

2. There were clear and statistically significant differences between attitudes of wife as reported by the Warrant Officer for those who remained in service and those who left service.

3. Those reporting better income prospects in civilian life were more likely to have left service; those reporting better prospects in the

Army, were more likely to remain in service.

4. Those reporting good job satisfaction and proper utilization were more likely to remain in service.

5. Those reporting positive career intention and orientation were more likely to remain in service.

6. A combination of items on Background, Wives' attitudes, career attitudes and career intentions into a simple composite score produced a correlation of .63 with retention vs. departure. Cross validating by applying a regression equation to a different group of 200-250 showed 85% prediction of departures from service and about 60% prediction of retention as against the overall departure rate of 75%.

The data for this study are accumulating and will be subject to more thorough analysis when all data on retention vs. departure are available. In all likelihood, multiple regression analyses will yield improvements in predictability. In addition, by virtue of having collected data at a given time in a population with varying times for remain/depart decision, data will become available on whether there is attenuation of predictability

from the questionnaire data as a consequence of displacement in time from the point of decision.

Findings in this study have also provided considerable data on Warrant Officer attitudes for Army Personnel policy makers on a variety of career relevant issues for Army aviators.

Summation

Rather than presenting one HumRRO study on motivation and incentives in manpower analysis in depth, I have tried to provide main findings from three selected studies. From these three studies, as well as other research in HumRRO and elsewhere, there are a number of simple generalizations that can be made about motivation and incentives in the Army:

1. Decisions and actions of significant segments of the manpower pool are effected by the social, economic and international milieu and by national draft and enlistment policies that are present at a given time.

2. There are many differences in orientation to service or to a service career among entrants into service. These differences can be

measured even in early stages of service. Career-orientation can be shaped as early as in the recruiting phase and changes in career-orientation are related to experiences in service.

3. While there are economic aspects to motivation for a military career, many other kinds of motivation are evident.

From the studies described and from many others, it is clear that studies of motivation and incentives can play a significant role in shaping decisions about national policies regarding military service and also for policies about civilian occupations. However, at the present time, the state of basic understanding for these phenomena is flimsy because there isn't enough information to provide sufficiently robust understanding of the role of motives and incentives against the backdrop of an ever-changing context.

Ginzberg ( ), for example, found that young soldiers of 18-20 during World War II were among the more effective soldiers. Results from Work Unit TRANSITION in 1960 suggest it was the somewhat older recruits who were more effective. Why the difference? Was it some complex combination of

circumstance related to draft policy in the early 1960s that led to critical differences aside from age being confounded with age? Would this combination be true in 1970?

The role and image in the public's eye of the military changes sharply from time to time, as do so many features of the national and international milieu. With only occasional data, typically limited in quantity, and typically taken at a given time and in a given place, it is not possible to develop robust theories and concepts of the role of motivation and incentives in manpower analysis, despite the obvious fact that these are potent forces.

With present-day data systems and present-day data processing capabilities, much more can be done. For military manpower problems and also for civilian counterparts, the most effective avenue to long-term improvement in understanding how to plan for and manage human resources can come from establishing long-term, continuing programs of data collection, development of computerized data banks and continuing astute explorations of these

banks towards creation of theories, concepts and data summaries that allow continual corrections for the effects of changes in a multitude of critical factors in the milieu and in the very nature of the manpower pool.

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